



Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

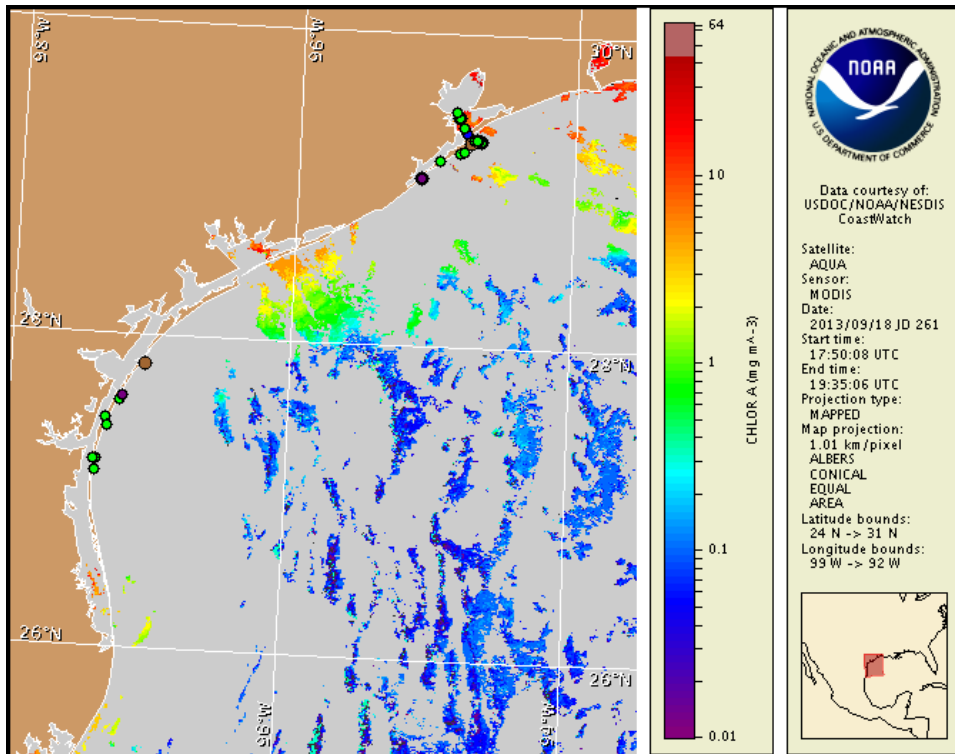
Thursday, 19 September 2013

NOAA National Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, September 16, 2013



Satellite chlorophyll image with possible *K. brevis* HAB areas shown by red polygon(s), when applicable. Points represent cell concentration sampling data from September 9 to 18: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Detailed sample information can be obtained through the Texas Parks and Wildlife Department at:

<http://www.tpwd.state.tx.us/landwater/water/envconcerns/hab/redtide/status.phtml>

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive:

<http://tidesandcurrents.noaa.gov/hab/bulletins.html>

Conditions Report

Not present to low concentrations of *Karenia brevis* (commonly known as Texas red tide) are present along the coast of Texas. *K. brevis* concentrations are patchy in nature and levels of respiratory irritation will vary locally based upon nearby bloom concentrations, ocean currents, and wind speed and direction. The highest level of potential respiratory irritation forecast for Thursday, September 19 to Monday, September 23 is listed below:

Region: Forecast (Duration)

Bolivar Peninsula region: Very Low (Th-M)

Galveston Island region: Low (Th-M)

Bay region-Galveston Bay: Very Low (Th-M)

San Luis Pass to Sargent Beach region: Very Low (Th-M)

Port Aransas/Mustang Island to Padre Island National Seashore region: Low (Th-M)

Padre Island National Seashore region: Very Low (Th-M)

All Other Texas regions: None expected (Th-M)

Check http://tidesandcurrents.noaa.gov/hab/beach_conditions.html for recent, local observations. Health information, from the Texas Department of State Health Services and other agencies, is available at http://tidesandcurrents.noaa.gov/hab/hab_health_info.html. No reports of respiratory irritation or dead fish have been received over the past few days.

There are currently patches of a bloom of the algae *Aureoumbra lagunensis* in the upper Laguna Madre region. This algae species does not produce the respiratory irritation associated with the Texas red tide caused by *Karenia brevis*, but it may cause discolored water and fish kills.

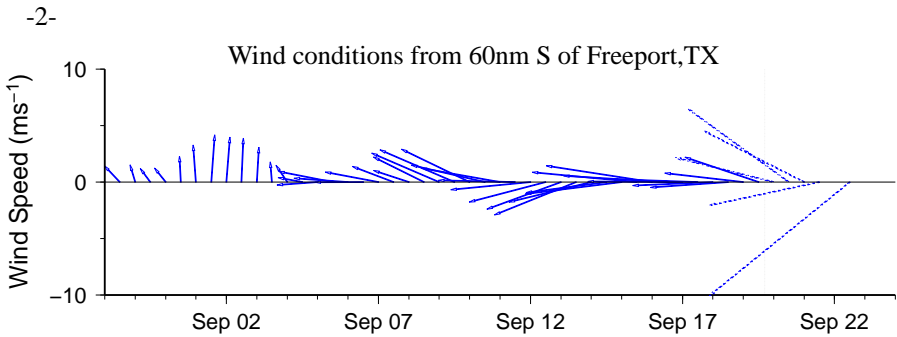
Analysis

Concentrations of *Karenia brevis* have been identified in the Bolivar Peninsula, Galveston, San Luis Pass to Sargent Beach, and Port Aransas/Mustang Island to Padre Island National Seashore (PINS) regions of Texas. In the Galveston Island, Galveston Bay, and Bolivar Peninsula regions, recent samples indicate that *K. brevis* concentrations have decreased within and the Bolivar Pass and along Galveston Island and range between 'not present' and 'low a' (TPWD; 9/16). In the Port Aransas region, Texas A&M University's Imaging Flow Cytobot indicates decreasing *K. brevis* concentrations at Port Aransas, where 'low a' concentrations have been identified by the Cytobot and recent sampling (TAMU, TPWD; 9/16). Recent samples from the PINS region indicate that concentrations of *K. brevis* are 'not present' at northern park boundary and 'very low b' at PINS 0 mile marker (TPWD; 9/18). No impacts have been reported from anywhere along the Texas coast over the last few days (TPWD, 9/16-19).

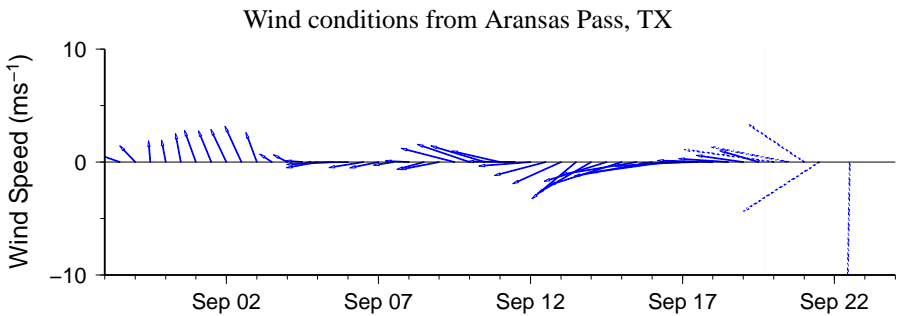
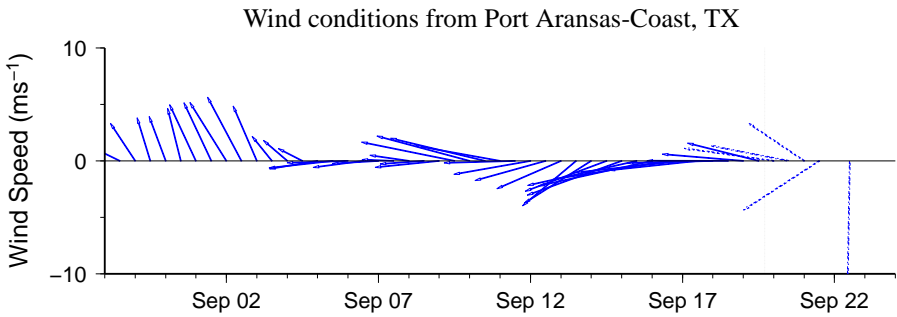
Over the past few days, MODIS Aqua imagery (9/18, shown left) has been almost completely obscured by clouds, limiting analysis. Small patches of elevated chlorophyll (3 to 10 $\mu\text{g/L}$) are visible along- and offshore the coast from Sabine Pass to the Matagorda Peninsula region. Elevated chlorophyll is not necessarily indicative of the presence of *K. brevis* and could also be an artifact of clouds in the imagery or due to the resuspension of benthic chlorophyll and sediments along the coast. In situ sampling is necessary to confirm the presence of *K. brevis*.

Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 80 km south from the Bolivar Roads Pass region, 110 km south from the Sargent Beach and Port Aransas regions, and 80 km south from the PINS 0 and 45 mile markers from September 18-22.

Yang, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).

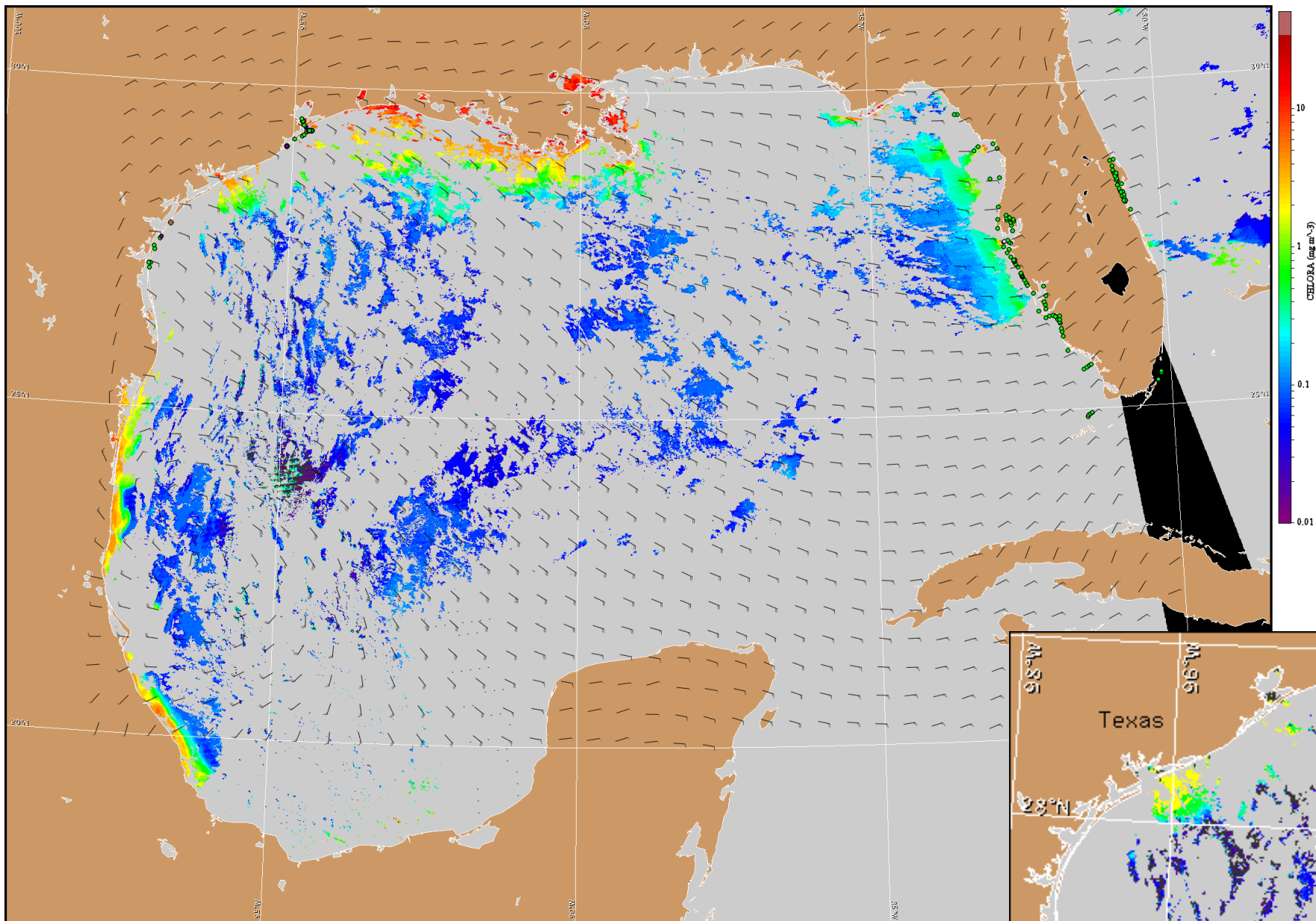


Wind Analysis

Galveston Region: East winds (10-15kn, 5-8m/s) today. Southeast winds (10-15kn) tonight through Friday. Northeast winds (10-20kn, 5-10m/s) Saturday. North winds (15-20kn, 8-10m/s) Sunday. Northeast winds (10-15kn) Sunday night through Monday.

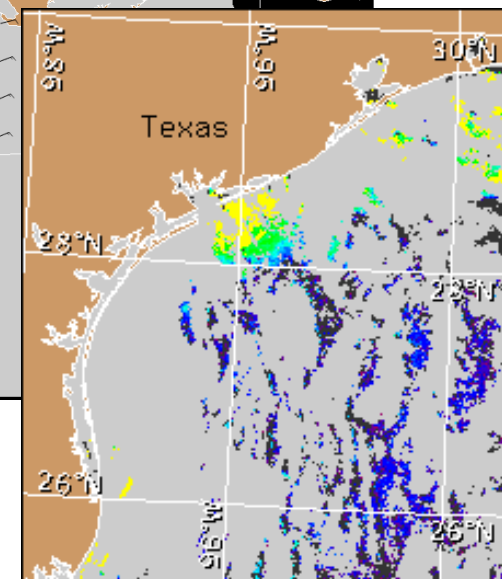
Port Aransas: East winds (10-15kn) today through Friday. East winds (15-20kn) Saturday shifting northeast (15kn, 8m/s) Saturday night. Northeast winds (10-15kn) Sunday through Monday.

Padre Island National Seashore Region: East winds (15kn) today shifting southeast (15kn) tonight. East winds (15kn) Friday becoming northeast (15kn) Friday night. North winds (15kn) Saturday. Northeast winds (10-15kn) Sunday through Monday.



Satellite chlorophyll image and forecast winds for September 20, 2013 12Z with points representing cell concentration sampling data from September 9 to 18: red (high), orange (medium), yellow (low b), brown (low a), blue (very low b), purple (very low a), pink (present), and green (not present). Cell count data are provided by Texas Parks and Wildlife Department. For a list of sample providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

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Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).